



The examination is being carried out on the **following application documents**:

Text for the Contracting States:

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SI SK TR LI

**Description, pages:**

1-8 as originally filed

**Claims, No.:**

1-12 as originally filed

**Drawings, sheets:**

1/1 as originally filed

**1. State of the art**

The following documents are referred to in this communication. The numbering will be adhered to in the rest of the procedure:

- D1: US-A-4 420 662
- D2: US-A-4 445 019
- D3: US-A-3 364 327
- D4: DE-C-880 338
- D5: US-A-4 707 576
- D6: US-A-4 418 255.

**2. Independent claim 1 - novelty**



- 2.1 The present application does not meet the requirements of Article 52(1) EPC, because the subject-matter of claim 1 is **not new** in the sense of Article 54(1) and (2) EPC.

The document D1 discloses all the features of claim 1 (see figures 1-3 and description):

Nozzle (7) for a medium or high voltage gas switching device of the type having at least a couple of separable arc contacts (4, 5) (fig. 1-3; abstract; col. 2, line 54-col. 3, line 23);

comprising a hollow shaped body (7) (fig. 1-3) suitable to be positioned inside the device around the zone where electric arcs form between said arc contacts (4, 5) during switching operations (fig. 1-3; col. 3, lines 6-23);

wherein said hollow shaped body has a first portion (13) electrically conductive (col. 4, lines 19-30 and 42-50) and a second portion (7) made of electrically insulating material (dielectric material, see col. 3, lines 6-12 and 40-46; col. 4, lines 46-50)

which surrounds at least partially said first portion (13) (fig. 1-3; col. 3, lines 39-42; col. 4, lines 27-30 and 41-50).

- 2.2 All the features of claim 1 are also disclosed by documents D2 (fig. 1; col. 2, lines 6-48; in this case an annular element is regarded as a nozzle), D3 (fig. 3; col. 3, lines 22-31) and D4 (fig. 1; page 2, col. 1, lines 35-73).

### 3. Claims 2-12

- 3.1 Document D1 discloses also that the hollow shaped body is realized in a single body with the conductive portion (13) incorporated in the portion made of electrically insulating material (17) (fig. 1-3; col. 3, lines 39-42; col. 4, lines 27-30 and 41-50). Therefore, the subject-matter of claim 2 is **not new** in the sense of Article 54(1) and (2) EPC.

- 3.2 Document D1 discloses that the conductive portion (13) acts as an electric shield



reducing an electrical field intensity (col. 3, line 60-col. 4, line 39);

As a consequence, the subject-matter of claim 3 is **not new** (Article 54(1) and (2) EPC).

3.3 Document D1 in the second embodiment discloses also (fig. 2, col. 4, lines 27-30) the conductive portion (13), which has a substantially annular shape and is positioned along an inner circumference path of the hollow shaped body.  
As a consequence, the subject-matter of claim 4 is **not new** (Article 54(1) and (2) EPC).

3.4 Document D1 discloses that the conductive portion (13) comprises one of following conductive materials: graphite and Teflon (a substantially mouldable insulating material) filled with a conductive material (col. 4; lines 19-26). Both of them are mouldable materials.  
Therefore, the subject-matter of claim 5 and 6 is **not new** in the sense of Article 54(1) and (2) EPC.

In document D1 it is not described from which material the insulating portion of the nozzle is produced.

However, the attention of the applicant is drawn to the fact that a portion of a nozzle made of electrically insulating material which comprises a mouldable material is an obvious choice from a few well-known options in order to make the production simple and cost effective. Such a nozzle is described, e.g., in document D2 (col. 2, lines 6-13).

As a consequence, even if the conjunction "or" is deleted from claim 5, the subject-matter of claim 5 would not involve an inventive step in the sense of Article 56 EPC.

3.6 Document D1 in the second embodiment discloses that the conductive portion (13) is made of a matrix of substantially mouldable insulating material and a conductive filler. The problem to be solved defined by the applicant (description, page 6, line 8) is regarded as "How to ensure a proper conductivity and stability of the material used in an electrically conductive portion"



The volume of the conductive filler between 0,5% and 20% have already been employed in order to solve this problem in a similar nozzle (see the third embodiment of the nozzle from document D1, col. 4, lines 41-61). It would therefore be obvious to the person skilled in the art, to apply this feature with corresponding effect to a nozzle according to the second embodiment of document D1, thus arriving at a nozzle according to claim 7.

Therefore, the subject-matter of claim 7 does **not** involve an **inventive** step in the sense of Article 56 EPC.

- 3.7 Document D1 discloses that the electric conductive portion (13) is made of graphite or Teflon filled with a conductive material.

The problem to be solved may therefore be regarded as: "How to provide the conductive portion of a nozzle with a high conductivity".

The use of a metallic piece as a conductive portion of a nozzle is a matter of normal design procedure, see for example document D3 (fig. 3; col. 3, lines 22-35). Its inclusion in the nozzle described in document D1 would therefore be an obvious design possibility for the skilled person in order to solve the problem posed.

Therefore, the subject-matter of claim 8 does **not** involve an **inventive** step in the sense of Article 56 EPC.

- 3.8 Claim 9 is defined in terms of a manufacture. Such a claim is only admissible if the product as such fulfils the requirements for patentability, i.e. inter alia that there is new and inventive, which is not the case for claim 9.

As a consequence, claim 9 is **not clear** (Article 84 EPC).

- 3.9 Document D1 discloses a gas switching device comprising at least a mobile arc contact and a fixed arc contact (see paragraph 2), wherein the gas switching device comprises a nozzle according to claims 1-7 and 8 (in combination with document D3) (see paragraphs 2 and 3.1-3.8).

Therefore, the subject-matter of claim 10 is **not new** in the sense of Article 54(1) and (2) EPC and **not inventive** (for claim 8 as preceding claim) in the sense of Article 56 EPC.



- 3.10 In claim 11 a slight constructional change in the gas switching device of claim 10 is suggested which comes within the scope of the customary practice followed by persons skilled in the art, e.g. see document D2 (fig. 1; col. 1, line 64-col. 2, line 35), especially as the advantages thus achieved can be readily contemplated in advance. Consequently, the subject-matter of claim 11 also appears to lack an **inventive step** (Article 56 EPC).
- 3.11 In claim 12 a slight constructional change in the gas switching device of claim 11 is suggested which comes within the scope of the customary practice followed by persons skilled in the art, see for example documents D5 (fig.1) and D6 (fig. 1; col. 2, lines 47-59), especially as the advantages thus achieved can be readily contemplated in advance. Consequently, the subject-matter of claim 12 also appears to lack an **inventive step** (Article 56 EPC).
- 3.12 Document 2 discloses also all the features of claims 2, 3, 4 and 5 and document D4 discloses all the features of claims 2 and 3 (see paragraph 2.2).

#### 4. Final remarks

- 4.1 It is not at present apparent which part of the application could serve as a basis for a new, allowable claim. Should the applicant nevertheless regard some particular matter as patentable, an independent claim should be filed taking account of Rule 29(1) EPC. The applicant should also indicate in the letter of reply the difference of the subject-matter of the new claim vis-à-vis the state of the art and the significance thereof.
- 4.2 In order to facilitate the examination of the conformity of the amended application with the requirements of Article 123(2) EPC, the applicant is requested to clearly identify the amendments carried out, irrespective of whether they concern amendments by addition, replacement or deletion, and to indicate the passages of the application as filed on which these amendments are based.



Bescheid/Protokoll (Anlage)

Datum  
Date  
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2906  
Communication/Minutes (Annex)

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Sheet  
Feuille 6

EP03079013  
Notification/Procès-verbal (Annexe)

Anmelde-Nr.:  
Application No.: 03 079 013.3  
Demande n°:

If the applicant regards it as appropriate these indications could be submitted in handwritten form on a copy of the relevant parts of the application as filed.



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Application No. <b>03 079 013.3 - 2214</b>	Ref. <b>I-0295-EP</b>	Date <b>26.01.2006</b>
Applicant <b>ABB Technology AG</b>		

**Communication pursuant to Article 96(2) EPC**

The examination of the above-identified application has revealed that it does not meet the requirements of the European Patent Convention for the reasons enclosed herewith. If the deficiencies indicated are not rectified the application may be refused pursuant to Article 97(1) EPC.

You are invited to file your observations and insofar as the deficiencies are such as to be rectifiable, to correct the indicated deficiencies within a period

**of 4 months**

from the notification of this communication, this period being computed in accordance with Rules 78(2) and 83(2) and (4) EPC.

One set of amendments to the description, claims and drawings is to be filed within the said period on separate sheets (Rule 36(1) EPC).

**Failure to comply with this invitation in due time will result in the application being deemed to be withdrawn (Article 96(3) EPC).**



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Enclosure(s): 6 page/s reasons (Form 2906)